Amendments to the Claims

This listing of the claims will replace all prior versions, and listings, of the claims in the application.

Listing of the Claims:



Appl. No. 10/596,024

Amdt. Dated December 29, 2009

Reply to Office Action of September 29, 2009

Claim 21 (cancelled)

Claim 22 (cancelled)

Claim 23 (cancelled)

Claim 24 (new)

A polypeptide having fatty acid elongase activity comprising the amino acid sequence as set forth in SEQ ID NO: 24.

Claim 25 (new)

A nucleic acid molecule comprising a nucleotide sequence encoding a fatty acid elongase, the fatty acid elongase comprising the amino acid sequence as set forth in SEQ ID NO: 24.

Claim 26 (new)

The nucleic acid molecule according to claim 25 comprising the nucleotide sequence as set forth in SEQ ID NO: 25.

Claim 27 (new)

An expression vector comprising a nucleic acid molecule as defined in claim 25 in reading frame alignment with a promoter capable of increasing expression of said nucleic acid molecule in a cell of a seed.

Claim 28 (new)

The expression vector according to claim 27, wherein the nucleic acid molecule comprises the nucleotide sequence as set forth in SEQ ID NO: 25.

Claims 29 (new)

A cell comprising a heterologous nucleic acid molecule, the heterologous nucleic acid molecule comprising a nucleotide sequence encoding a fatty acid elongase, the fatty acid elongase comprising the amino acid sequence as set forth in SEQ ID NO: 24.

Claim 30 (new)

The cell according to claim 29, wherein said cell is a fungal cell or a yeast cell.

Appl. No. 10/596,024

Amdt. Dated December 29, 2009

Reply to Office Action of September 29, 2009

Claim 31 (new)

The cell according to claim 29, wherein said cell is a plant cell.

Claim 32 (new)

The cell according to claim 29, wherein said cell is a plant seed cell.

Claim 33 (new)

The cell according to claim 32, wherein the cell produces an increase in proportion of C₂₀ or greater fatty acids when compared to a control cell lacking the heterologous nucleic acid molecule.

Claim 34 (new)

The cell according to claim 32, wherein the cell produces an increase in proportion of erucic acid when compared to a control cell lacking the heterologous nucleic acid molecule.

Claim 35 (new)

A seed comprising a plurality of cells as defined in claim 32.

Claim 36 (new)

A plant comprising a plurality of cells as defined in claim 31.

Claim 37 (new)

The plant according to claim 36, wherein said plant is a dicotyledon.

Claim 38 (new)

The plant according to claim 36, wherein said plant is a member of *Brassicaceae*, *Limanthaceae*, *Tropaeolaceae* or *Simmondsia* family.

Claim 39 (new)

The plant according to claim 36, wherein said plant is a member of genus Brassica.

Claim 40 (new)

The plant according to claim 36, wherein said plant is flax.

Appl. No. 10/596,024

Amdt. Dated December 29, 2009

Reply to Office Action of September 29, 2009

Claim 41 (new)

A method of increasing C_{20} or greater fatty acid proportion in a plant-derived oil comprising cultivating a plant as defined in claim 35, and then extracting the plant-derived oil therefrom, the oil having increased C_{20} or greater fatty acid proportion when compared to a control plant lacking heterologous nucleic acid molecule.

Claim 42 (new)

The method according to claim 41, wherein the C₂₀ or greater fatty acid comprises erucic acid and erucic acid proportion is increased in the oil.

Claim 43 (new)

The method according to claim 42, wherein the plant is flax or a member of genus *Brassica*.